1. **You push a shopping cart towards the back of Giant. Which way is the friction force?**
2. **What is the symbol used for the “coefficient of static friction”?**
3. **Your mousetrap car (which is due June 2nd) has a mass of 0.125N, and the trap produces a force of 0.013N. What is the coefficient of kinetic friction for your wheels on the hallway floor?**
4. **When using 2nd Law, what is the unit used for acceleration? (*hint: it’s the same as “g”)***
5. **Many sports use spikes on their shoes. What is the reason for this, in terms of this unit?**
6. **What would have more inertia; an iceberg or the Titanic?**
7. **Which would have more momentum, a stationary iceberg or the moving Titanic?**
8. **A butcher is walking behind the deli at Giant. The force of friction on his shoes is 200N, and the coefficient of kinetic friction is 0.86. What does he weigh?**
9. **How would you FULLY state Newton’s 1st law?**
10. **How would you FULLY state Newton’s 2nd law?**
11. **How would you FULLY state Newton’s 3rd law?**
12. **How would you describe a force?**
13. **What are the units used to describe a force?**
14. **In a tug-o-war, Team J pulls with 450N of force. Team V pulls with 500N of force. Who will win, and what is the resulting force?**
15. **In a tug-o-war, Team S pulls with 450N of force. Team W pulls with 500N of force. Describe the motion of Team W.**
16. **If Mr. Potato head has a mass of 2kg. How much does he weigh? What is his Normal**

**force?**

1. **You pull a wagon with a force of 15N, and the friction force is -15N. Will the wagon**

**accelerate? Why or why not?**

1. **Tape sticking to a wall, the papers all over Mr. Rita’s desk, the tables on the floor. What**

**type of friction holds these objects in place?**

1. **You writing with your pencil, you are scratching your b \_ \_ \_ . What type of friction is this?**

***(I meant back!)***

1. **You don’t wear your seat belt in the car. What will happen if your car is acted upon by a**

**large tree?**

1. **You are delivering papers from your bike. As you approach the front porch of one of your**

**customers, when should you toss the paper, before you get there, or after?**

***Review Key***

1. You push a shopping cart towards the back of Giant. Which way is the friction force?

*Toward the front of Giant*, or in the opposite direction of motion.

1. What is the symbol used for the “coefficient of static friction”?

*µs*

1. Your mousetrap car has a weight of 0.125N, and the trap produces a force of 0.013N. What is the coefficient of kinetic friction for your wheels on the hallway floor?

*µ = f/N = .013/.125 = 0.104*

1. When using 2nd Law, what is the unit used for acceleration? (*hint: it’s the same as “g”)*

*m/s2*

1. Many sports use spikes on their shoes. What is the reason for this, in terms of this unit?

*To increase friction, both kinetic and static*

1. What would have more inertia; an iceberg or the Titanic?

*The iceberg, it was more resistant to being moved due to its larger mass.*

1. *What would have more Momentum, a stationary iceberg or the moving Titanic?*

*The Titanic since it has some velocity, and the iceberg has none.*

1. A butcher is working the deli at Giant. The force of friction on his shoes is 200N, and the coefficient of kinetic friction is 1.20. What does he weigh?

*N = f/µ = 200/1.2 = 166.67N*

1. How is Newton’s 1st law stated?

*A body in motion stays in motion } unless acted upon by an outside force*

*A body at rest stays at rest}*

1. How is Newton’s 2nd law stated?

*F = ma*

1. How is Newton’s 3rd law stated?

*For every action there is an equal but opposite reaction*

1. How would you describe a force?

*As a push or a pull*

1. What are the units used to describe a force?

*Newton (N)*

1. In a tug-o-war, Team J pulls with 450N of force. Team V pulls with 500N of force. Who will win, and what is the resulting force?

*Team V: 450 – 500 = -50N*

1. In a tug-o-war, Team S pulls with 450N of force. Team W pulls with 500N of force. Describe the motion of Team W.

*Team W will accelerate backwards. An unbalanced force will cause acceleration.*

1. If Mr. Potato head has a mass of 2kg. How much does he weigh? What is his Normal force?

*Weight = mg = 2kg x 9.8m/s2 = 19.6N = Normal*

1. You pull a wagon with a force of 15N, and the friction force is -15N. Will the wagon accelerate? Why or why not?

*No, a body with equally balanced forces will not accelerate. It will move at constant speed or have no motion.*

1. Tape on a wall, the papers all over Mr. Rita’s desk, the tables on the floor. What type of friction is this?

*Static friction*

1. You writing with your pencil, you scratching your back. What type of friction is this?

*Kinetic friction*

1. You don’t wear your seat belt in the car. What will happen if your car is acted upon by a large tree?

*-You will remain a body in motion until acted upon by the windshield.*

*-The force of the car on your body will cause your mass to accelerate.*

*-The action of the seat pushing on you will cause a reaction of you moving forward.*

1. You are delivering papers from your bike. As you approach the front porch of one of your customers: when should you toss the paper, before you get there, or after? *(This one favors 1st law)*

*-Before you get to the porch, since the paper has inertia, will remain in forward motion until it hits the porch.*

*-When you throw the paper, the force will accelerate the mass. After the paper leave your hand, the acceleration decreases, allowing the paper to land on the porch.*

*-The action of the paper, as it flies through the air encounters wind resistance,(reaction) slowing it down enough to land on the porch.*

1. When you shoot a gun, your shoulder feels a push from the gun called recoil. Why does this happen?

*-The gun will be a body in motion until it hits your shoulder.*

*-The force of the explosion(Force) will highly accelerate the low mass of the bullet. The same explosion will slowly accelerate the high mass of the gun.*

*-The action of the bullet leaving the gun will cause an equal reaction of the gun, leaving the bullet, pushing it into your shoulder.*